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Short Communication

The Effect on Intraocular Pressure of Phacoemulsification Alone Versus Phacoemulsification Combined with Trabeculectomy for Primary Angle-Closure Glaucoma

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Introduction

"Phacoemulsification typically results in … marked reductions of IOP and medications for patients with …PACG, and using 1 to 2 medications before surgery… However, reports on its effects in eyes with advanced disease or poor IOP control before surgery are few, particularly for POAG and PXG" [1].

"Lens extraction may be combined with procedures such as goniosynechialysis, trabeculectomy or endoscopic cyclophotocoagulation… These procedures should be combined with phaco/IOL. APAC produces a substantial financial burden. Reduction of cost of medication is a useful approach for reducing the total cost of treatment. … Life expectancy and the patient's overall health status should also be taken into account when considering different treatment opinions" [2].

Purpose and Methodology

We conducted a study to assess the effect on Intraocular Pressure of Phacoemulsification Alone versus Phacoemulsification Combined with Trabeculectomy for Primary Angle-Closure Glaucoma. Clinical records of 57 consecutive patients with Primary Open Angle Glaucoma (Van Herrick angle estimation < 1/4 and/or Primary Acute Angle Closure-PAC history in association with glaucomatous visual field defects) were retrospectively reviewed.

All patients were on antiglaucoma medication. 39/57 patients had suffered PAC. 48 patients (32 women, 16 men underwent phaco-temporal approach) and 9 patients (6 women and 3 men underwent combined phaco-trabeculectomy with Safe Trabeculectomy Technique) [3].

Primary Open Angle Glaucoma			
	Phacoemulsification (N = 48)	**Combined Phacoemulsification-Trabeculectomy (N = 9)**	**p-value**
Gender (men/women)	16/32	3/6	
Preoperative Intraocular Pressure (mmHg) (mean, range)	22.75 (11 - 44)	39.55 (11 - 55)	< 0.0001
Age (mean, range, median)	75.8 (64 - 91. 74)	72.3 (60 - 88, 70)	
Primary Acute Angle Closure Glaucoma	31/48	8/9	

Table 1: Baseline patients' characteristics.

Results

At 6, 12, 18 and 24 months postoperatively the Intraocular Pressure in the phaco only group was significantly higher than the combined surgery group (Table 2).

The number of anti-glaucoma medications was lower in the phacoemulsification combined with trabeculectomy group postoperatively than the phacoemulsification only group to achieve the target intraocular pressure.

In addition, postoperative hypotony (one case, resolved without sequelae) occurred only after phacoemulsification combined with trabeculectomy, but not after phacoemulsification only. There were no additional postoperative complications (Figure 1 and 2).

Intraocular Pressure (mean, 95% Confidence Interval)				
	Phaco only Group N = 48		Phaco-trabeculectomy Group N = 9	
6 months	16.8	15.7 - 17.9	13.9	10.3 - 17.5
12 months	16.4	15.4 - 17.3	13.9	10.4 - 17.3
18 months	17. 95	15.7 - 18.3	12.8	8.5 - 17
24 months	16.5	14.8 - 18	12.3	8.5 - 16.1

Table 2: Intraocular pressure in both treatment groups at 6, 12, 18 and 24 months postoperatively.

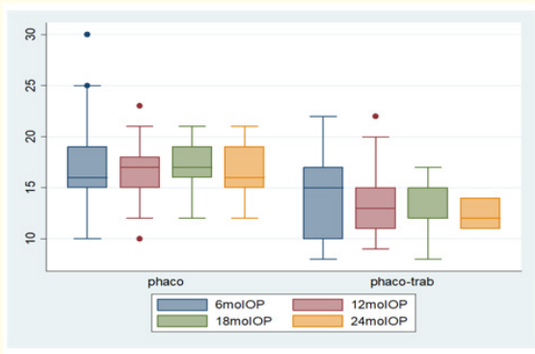

Figure 1: Intraocular Pressure (mmHg) at 6, 12, 18 and 24 months postoperatively for both treatment groups.

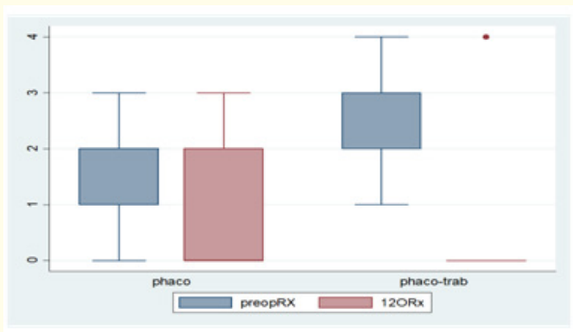

Figure 2: Number of antiglaucoma medications needed preoperatively and at 12 months postoperatively in both treatment groups.

There was a trend (although not statistically significant) to less antiglaucoma medication at the end of the 1st postoperative year in the combined surgery group vs the phaco only group.

By the end of 1st postoperative year, 7/8 and 23/45 patients from the combined-surgery group and the phaco-only group respectively were free of medications [4,5].

Conclusion

Both phacoemulsification only and phacoemulsification combined with trabeculectomy showed good surgical outcomes in PACG patients. Both procedures might be equally effective in treating patients with PACG although there is a trend to lower IOPs and better IOP control in the combined phacoemulsification-trabeculectomy group.

Bibliography

1. Philip P Chen., *et al*. "The Effect of Phacoemulsification on Intraocular Pressure in Glaucoma Patients: A Report by the American Academy of Ophthalmology". *Ophthalmology* 122.7 (2015): 1294-1307.

2. Poemen P Chan., *et al*. "Acute primary angle closure-treatment strategies, evidences and economical considerations". *Eye* 33.1 (2019): 110-119.

3. RR Khandelwal., *et al*. "Surgical outcome of safe surgery system trabeculectomy combined with cataract extraction". *Eye* 29.3 (2015): 363-370.

4. Zong-Mei Zhang., *et al*. "Reduction of intraocular pressure and improvement of vision after cataract surgeries in angle closure glaucoma with concomitant cataract patients". *International Journal of Clinical and Experimental Medicine* 8.9 (2015): 16557-16563.

5. Woo-Jin Kim., *et al*. "Effect of Preoperative Factor on Intraocular Pressure after Phacoemulsification in Primary Open-angle Glaucoma and Primary Angle-closure Glaucoma". *Korean Journal of Ophthalmology* 33.4 (2019): 303-314.